

CLAIMS

1. A ball screw mechanism for electric power steering apparatus, in which two ball circulating holes each connected to each end portion of a circulator for circulating balls via outside a ball nut are bored midway at a screw groove formed on an inner circumference of said ball nut fitted on an outside of a ball screw portion formed on a steering shaft, and said ball nut is rotated by driving an electric motor, wherein

a step is formed between a portion of the screw groove, which becomes a ball screw track between said two ball circulating holes, and both or one of portions of said screw groove on the further outside than said respective two ball circulating holes.

2. The ball screw mechanism for electric power steering apparatus as set forth in claim 1, wherein said step is formed by making a depth of said portion of said screw groove between said two ball circulating holes deeper than a depth of both or one of said portions of said screw groove on the further outside than said respective two ball circulating holes.

3. The ball screw mechanism for electric power

steering apparatus as set forth in claim 1, wherein said step is formed at both or one of said two ball circulating holes by forming an opening of ball circulating hole at said screw groove so that an opening edge on the side of said screw groove between said two ball circulating holes is deeper than an opening edge on said further outside.

4. A ball screw mechanism for electric power steering apparatus, in which two ball circulating holes each connected to each end portion of a circulator for circulating balls via outside a ball nut are bored midway at a screw groove formed on an inner circumference of said ball nut fitted on an outside of a ball screw portion formed on a steering shaft, and said ball nut is rotated by driving an electric motor, wherein

a ball circulating hole extending to outside of said ball nut and having a larger hole diameter than an outside diameter of said ball is bored at both or one of portions of said screw groove located on both sides of a portion of said screw groove between said two ball circulating holes.